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EXAMINER

OCAMPO, MARIANNE S

ART UNIT

PAPER NUMBER

1723

DATE MAILED: 05/29/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/772,542

Applicant(s)

LEVY, EHUD

Examiner

Marianne S. Ocampo

Art Unit

1723

-- **Th MAILING DATE of this communication appears on the cover sheet with the correspondence address --**
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 April 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-41 is/are pending in the application.
- 4a) Of the above claim(s) 7-9 and 13-41 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 10-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☒ Interview Summary (PTO-413) Paper No(s). 7.
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____. 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of claims 1 – 6 and 10 - 12 in Paper No. 6 (Response to Restriction Requirement filed on 4-8-03) is acknowledged. The traversal is on the grounds that the examiner failed to support the assertion that the subcombination (Group I invention) has utility in filtration of oil or gases, and failed to establish undue burden on examination. This is not found persuasive because the subcombination (i.e. the claimed invention in Group I invention) does have utility in the filtration of gases (particularly of exhaust gases) and fuel/diesel oils, as shown by US Patents 6,155,432 (Wilson et al.), 5,750,026 (Gadkaree et al.) and 3,972,694 (Head). With regards to the argument that the search of Group I would require/necessitate the search for the other groups of invention and therefore would not be presenting undue burden on the examiner, this is simply untrue. The other groups of inventions require extensive search in other subject areas normally would not be included in the search for Group I invention, for example like a search in class 428/544+ (for metallic compositions) and class 95/273+ (gas separation process), and subclasses in class 210 (filtration and purification) which would not be required, for example, those of subclasses 670,679,688 and 694.

The requirement is still deemed proper and is therefore made FINAL.

2. Claims 7 – 9 and 13 – 41 are hereby withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected groups and/or species of invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in Paper No. 6.

Claim Objections

3. Claims 1, 6, 10 and 12 are objected to because of the following informalities:

- a). In claim 1, the letter “t” after the number 15 in lines 1 & 2, and after number 25, should be changed to “%”.
- b). In claim 6, the letter “t” after the number 25% in line 2, should be deleted.
- c). In claim 10, the word “lot” in line 3 should be changed to “10%”.
- d). In claim 12, the word “lot” in line 2 should be changed to “10%”.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 4 – 5 are rejected under 35 U.S.C. 102(b) as being anticipated by Gadkaree et al. (US 5,750,026).

6. With respect to claim 4, Gadkaree et al. disclose a filtration media capable of being used for a small filter in which the media occupies a space less than about 20 cubic inches, the filtration media *is composed of* (i.e. comprising) 5% to 85 wt % inorganic filler in the form of zirconia, which includes the claimed range of 15% - 25%, 3% to 10 wt % (organic) binder material and 11% to 50 wt % activated carbon, which includes the claimed range of 45% - 50%, as in cols. 7 - 13.

7. Concerning claim 5, Gadkaree et al. also disclose the zirconia/inorganic filler content including that of about 20%, as in cols. 7 - 13.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are

such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1 – 3 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gadkaree et al. (US 026).

10. Regarding claim 1, Gadkaree et al. disclose a filtration media for treatment of water, such as drinking water, which *is composed of* (i.e. comprising) 5% to 85 wt % inorganic filler in the form of zirconia, 3% to 10 wt % (organic) binder material and 11% to 50 wt % activated carbon, as in cols. 7 - 13. Although Gadkaree et al. do not disclose the exact composition of 60% to 80% activated carbon, it is considered obvious to one of ordinary skill in the art that an amount of 50% activated carbon disclosed by the prior art (Gadkaree et al.) is considered close enough to the claimed ranges (i.e. 60% - 80%) that one of ordinary skill in the art would have expected them to have the same properties. Furthermore, it is also considered obvious to one of ordinary skill in the art to modify the composition of the filtration media by having more than 50% of the activated carbon as desired/needed by the user, in order to increase the adsorptive capability of the filtration media (see cols. 1 - 7 for adsorption abilities of activated carbon). In the case where claimed ranges “overlap or lie inside ranges disclosed by the prior art”, a prima facie case of obviousness exists. In the case laws, *In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976) and *In re Woodruff*, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990), the prior art taught carbon monoxide concentrations of “about 1 – 5%” while the claim was limited to

“more than 5%”. The court held that “about 1 - 5%” allowed for concentrations slightly above 5% thus the ranges overlapped. In case law, *In re Geisler*, 116 F.3d 1465, 1469-71, 43 USPQ2d 1362, 1365-66 (Fed. Cir. 1997), a claim reciting thickness of a protective layer as falling within a range of “50 –100 Angstroms” considered prima facie obvious in view of the prior art reference teaching that “for suitable protection, a thickness of the protective layer should be not less than about 10 nm (i.e. 100 Angstroms)”. The court stated that “by stating that “suitable protection” is provided if the protective layer is “about 100 Angstroms thick, the prior art directly teaches the use of a thickness within the applicant’s claimed range. Another case law, *Titanium Metals Corp. of America v. Banner*, 778 F.2d 775, 227 USPQ 773 (Fed. Cir. 1985), has found that a prima facie case of obviousness exists where the claimed ranges and prior art ranges do not overlap but are close enough that one skilled in the art would have expected them to have the same properties. The court held as proper a rejection of a claim directed to an alloy of “having 0.8% nickel, 0.3% molybdenum, up to 0.1% iron, balance titanium” as obvious over a reference disclosing alloys of 0.75% nickel, 0.25% molybdenum, balance titanium and 0.94% nickel, 0.31% molybdenum, balance titanium.

11. Concerning claim 2, although Gadkaree et al. do not disclose the composition of carbon (i.e. carbon content) in the filtration media being about 70%, it is considered obvious to one of ordinary skill in the art that an amount of 50% activated carbon disclosed by the prior art (Gadkaree et al.) is considered close enough to the claimed ranges (i.e. about 70 %) that one of ordinary skill in the art would have expected them to have the same properties. Furthermore, it

is also considered obvious to one of ordinary skill in the art to modify the composition of the filtration media by having more than 50% of the activated carbon as desired/needed by the user, in order to increase the adsorptive capability of the filtration media (see cols. 1 - 7 for adsorption abilities of activated carbon). In the case where claimed ranges “overlap or lie inside ranges disclosed by the prior art”, a prima facie case of obviousness exists. In the case laws, *In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976) and *In re Woodruff*, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990), the prior art taught carbon monoxide concentrations of “about 1 – 5%” while the claim was limited to “more than 5%”. The court held that “about 1 - 5%” allowed for concentrations slightly above 5% thus the ranges overlapped. In case law, *In re Geisler*, 116 F.3d 1465, 1469-71, 43 USPQ2d 1362, 1365-66 (Fed. Cir. 1997), a claim reciting thickness of a protective layer as falling within a range of “50 –100 Angstroms” considered prima facie obvious in view of the prior art reference teaching that “for suitable protection, a thickness of the protective layer should be not less than about 10 nm (i.e. 100 Angstroms)”. The court stated that “by stating that “suitable protection” is provided if the protective layer is “about 100 Angstroms thick, the prior art directly teaches the use of a thickness within the applicant’s claimed range. Another case law, *Titanium Metals Corp. of America v. Banner*, 778 F.2d 775, 227 USPQ 773 (Fed. Cir. 1985), has found that a prima facie case of obviousness exists where the claimed ranges and prior art ranges do not overlap but are close enough that one skilled in the art would have expected them to have the same properties. The court held as proper a rejection of a claim directed to an alloy of “having 0.8% nickel, 0.3% molybdenum, up to 0.1% iron,

balance titanium” as obvious over a reference disclosing alloys of 0.75% nickel, 0.25% molybdenum, balance titanium and 0.94% nickel, 0.31% molybdenum, balance titanium.

12. With regards to claim 3, as mentioned above, Gadkaree et al. disclose a filtration media for treatment of water, such as drinking water, which *is composed of* (i.e. comprising) 5% to 85 wt % inorganic filler in the form of zirconia, which includes a composition of about 10%, 3% to 10 wt % (organic) binder material and 11% to 50 wt % activated carbon, as in cols. 7 - 13. Although Gadkaree et al. do not disclose the composition of activated carbon in the filtration media being about 70%, it is considered obvious to one of ordinary skill in the art that an amount of 50% activated carbon disclosed by the prior art (Gadkaree et al.) is considered close enough to the claimed ranges (i.e. about 70 %) that one of ordinary skill in the art would have expected them to have the same properties. Furthermore, it is also considered obvious to one of ordinary skill in the art to modify the composition of the filtration media by having more than 50% of the activated carbon as desired/needed by the user, in order to increase the adsorptive capability of the filtration media (see cols. 1 - 7 for adsorption abilities of activated carbon). In the case where claimed ranges “overlap or lie inside ranges disclosed by the prior art”, a prima facie case of obviousness exists. In the case laws, *In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976) and *In re Woodruff*, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990), the prior art taught carbon monoxide concentrations of “about 1 – 5%” while the claim was limited to “more than 5%”. The court held that “about 1 - 5%” allowed for concentrations slightly above 5% thus the ranges overlapped. In case law, *In re Geisler*, 116 F.3d 1465, 1469-71, 43 USPQ2d 1362,

1365-66 (Fed. Cir. 1997), a claim reciting thickness of a protective layer as falling within a range of “50 –100 Angstroms” considered prima facie obvious in view of the prior art reference teaching that “for suitable protection, a thickness of the protective layer should be not less than about 10 nm (i.e. 100 Angstroms)”. The court stated that “by stating that “suitable protection” is provided if the protective layer is “about 100 Angstroms thick, the prior art directly teaches the use of a thickness within the applicant’s claimed range. Another case law, Titanium Metals Corp. of America v. Banner, 778 F.2d 775, 227 USPQ 773 (Fed. Cir. 1985), has found that a prima facie case of obviousness exists where the claimed ranges and prior art ranges do not overlap but are close enough that one skilled in the art would have expected them to have the same properties. The court held as proper a rejection of a claim directed to an alloy of “having 0.8% nickel, 0.3% molybdenum, up to 0.1% iron, balance titanium” as obvious over a reference disclosing alloys of 0.75% nickel, 0.25% molybdenum, balance titanium and 0.94% nickel, 0.31% molybdenum, balance titanium.

13. With respect to claim 6, Gadkaree et al. disclose the zirconia/inorganic filler content including that of about 25%, as in cols. 7 - 13, and although Gadkaree et al. do not disclose the composition of carbon (i.e. carbon content) in the filtration media being about 60%, it is considered obvious to one of ordinary skill in the art that an amount of 50% activated carbon disclosed by the prior art (Gadkaree et al.) is considered close enough to the claimed ranges (i.e. about 60 %) that one of ordinary skill in the art would have expected them to have the same properties. Furthermore, it is also considered obvious to one of ordinary skill in the art to modify

the composition of the filtration media by having more than 50% of the activated carbon as desired/needed by the user, in order to increase the adsorptive capability of the filtration media (see cols. 1 - 7 for adsorption abilities of activated carbon).). In the case where claimed ranges “overlap or lie inside ranges disclosed by the prior art”, a prima facie case of obviousness exists. In the case laws, *In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976) and *In re Woodruff*, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990), the prior art taught carbon monoxide concentrations of “about 1 – 5%” while the claim was limited to “more than 5%”. The court held that “about 1 - 5%” allowed for concentrations slightly above 5% thus the ranges overlapped. In case law, *In re Geisler*, 116 F.3d 1465, 1469-71, 43 USPQ2d 1362, 1365-66 (Fed. Cir. 1997), a claim reciting thickness of a protective layer as falling within a range of “50 – 100 Angstroms” considered prima facie obvious in view of the prior art reference teaching that “for suitable protection, a thickness of the protective layer should be not less than about 10 nm (i.e. 100 Angstroms)”. The court stated that “by stating that “suitable protection” is provided if the protective layer is “about 100 Angstroms thick, the prior art directly teaches the use of a thickness within the applicant’s claimed range. Another case law, *Titanium Metals Corp. of America v. Banner*, 778 F.2d 775, 227 USPQ 773 (Fed. Cir. 1985), has found that a prima facie case of obviousness exists where the claimed ranges and prior art ranges do not overlap but are close enough that one skilled in the art would have expected them to have the same properties. The court held as proper a rejection of a claim directed to an alloy of “having 0.8% nickel, 0.3% molybdenum, up to 0.1% iron, balance titanium” as obvious over a reference disclosing alloys of

0.75% nickel, 0.25% molybdenum, balance titanium and 0.94% nickel, 0.31% molybdenum, balance titanium.

14. Claims 10 – 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pedersen (US 5,118,655) in view of Hawley's Condensed Chemical Dictionary (Lewis Sr., Richard J., 13th ed., pages 1204-1205).

15. Concerning claim 10, Pedersen discloses a filtration media for purification of water, such as drinking water, which *is composed of* (i.e. comprising) diatomite (i.e. a form of adsorbent material also known as diatomaceous earth) of about 5 % to about 15 wt %, activated carbon of about 55% to about 85 wt %, (activated) alumina of about 1.25% to 6.25wt%, as in cols. 3 - 7. Pedersen fails to disclose the balance of the composition of the filtration media being that of binder material. Depending upon the desired configuration or shape or type of filtration media (i.e. clumps or granular or cartridge) by the user, it is considered obvious to one of ordinary skill in the art to modify the filtration media by adding some type of binder material in order to form a unitary cartridge or shape (clumps) of the media for easier manipulation and placing in a filter apparatus. The amount of binder to be used in the forming of a unitary filtration media (i.e. in cartridge form or clumps) would depend upon how compactly formed (i.e. porous) the media is going to be. Pedersen also discloses that the diatomite can be replaced by zirconia (zirconium oxide), as the one of active adsorbents in the composition. It is considered obvious to one of ordinary skill in the art to modify the material of construction of the adsorbent by substituting the

diatomite with zirconia, in order to provide an alternative material for adsorption which is insoluble in water and most acids and has great heat resistance (see Hawley's Condensed Chemical Dictionary, page 1204 for properties of zirconium oxide/zirconia).

16. Regarding claim 11, Pedersen further discloses the diatomite/zirconia content being about 5% to 15%, which would include the claimed range of about 10%, as in col. 4.

17. With regards to claim 12, Pedersen also discloses the (activated) alumina content being about 1.25% to 6.25 wt % (25% to 125% of bone charcoal composition which comprise about 5 % to 25% of the composition of the filtration media), as in cols. 6 - 7. Although Pedersen does not disclose the composition of activated alumina in the filtration media being about 10%, it is considered obvious to one of ordinary skill in the art that an amount of 6.25 % activated alumina as disclosed by the prior art (Pedersen) is considered close enough to the claimed ranges (i.e. about 10 %) that one of ordinary skill in the art would have expected them to have the same properties. Furthermore, it is also considered obvious to one of ordinary skill in the art to modify the composition of the filtration media by having more than 6.25% of the activated alumina, such that it is about 10%, as desired/needed by the user, in order to increase the adsorptive capability (removal) of organics by the filtration media (see col. 6 - 7 for adsorption abilities of activated alumina). In the case where claimed ranges “overlap or lie inside ranges disclosed by the prior art”, a prima facie case of obviousness exists. In the case laws, *In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976) and *In re Woodruff*, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir.

1990), the prior art taught carbon monoxide concentrations of “about 1 – 5%” while the claim was limited to “more than 5%”. The court held that “about 1 - 5%” allowed for concentrations slightly above 5% thus the ranges overlapped. In case law, *In re Geisler*, 116 F.3d 1465, 1469-71, 43 USPQ2d 1362, 1365-66 (Fed. Cir. 1997), a claim reciting thickness of a protective layer as falling within a range of “50 –100 Angstroms” considered prima facie obvious in view of the prior art reference teaching that “for suitable protection, a thickness of the protective layer should be not less than about 10 nm (i.e. 100 Angstroms)”. The court stated that “by stating that “suitable protection” is provided if the protective layer is “about 100 Angstroms thick, the prior art directly teaches the use of a thickness within the applicant’s claimed range. Another case law, *Titanium Metals Corp. of America v. Banner*, 778 F.2d 775, 227 USPQ 773 (Fed. Cir. 1985), has found that a prima facie case of obviousness exists where the claimed ranges and prior art ranges do not overlap but are close enough that one skilled in the art would have expected them to have the same properties. The court held as proper a rejection of a claim directed to an alloy of “having 0.8% nickel, 0.3% molybdenum, up to 0.1% iron, balance titanium” as obvious over a reference disclosing alloys of 0.75% nickel, 0.25% molybdenum, balance titanium and 0.94% nickel, 0.31% molybdenum, balance titanium.

Conclusion

18. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US 3,972,694 (Head), 6,155,432 (Wilson et al.), 5,451,444 (DeLiso), 5,254,262 (Funkenbusch et al.), 5,178,768 (White, Jr.) and 4,474,853 (Watanabe).

19. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marianne S. Ocampo whose telephone number is (703) 305-1039. The examiner can normally be reached on Mondays to Fridays from 8:00 A.M. to 4:30 P.M..

20. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda Walker can be reached on (703) 308-0457. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

21. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

MSO
M.S.O.
May 23, 2003

John Kim
JOHN KIM
PRIMARY EXAMINER
GROUP 1700